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February 14, 2005

Jonathan L. Trout
Secretary-Treasurer
Louisville Metro Air Pollution Control Board
850 Barrett Avenue
Louisville, Kentucky 40204-1745

Re: Proposed Regulations & Amendments
To Regulations 1.02, 1.06, 1.07, 2.08, 3.01,
5.01, 5.11, 5.12, 5.20, 5.21, 5.22, 5.23, 5.30,
3.02, 3.03, 3.04, 3.05, 5.03

Dear Mr. Trout:

These written comments are submitted on behalf of the Board and membership of the Kentucky Resources Council, Inc. (KRC), a non-profit environmental advocacy organization incorporated under the laws of the Commonwealth of Kentucky and dedicated to prudent use and conservation of the natural resources of the Commonwealth. KRC members include numerous individuals who live, work, recreate, and own property and businesses within the Louisville Metro community, and who are adversely affected and aggrieved within the meaning of law by (1) the historic failure of the industries that emit air toxics into the Louisville air to manage their waste emissions in a manner that is protective of the health and property interests of others and (2) of the local, state and federal government to require such reductions as are needed to assure a safe and healthful environment.

KRC has reviewed the proposed amendments to existing regulations and the proposed new regulations comprising the "STAR" program, and offers

these comments concerning the proposed regulations. Prior to addressing specific matters, KRC offers these general observations and concerns.

Legal Authority

There can be little doubt that, as Louisville Metro government, through the Louisville Metro Air Pollution Control District (LMAPCD) moves forward to adopt a meaningful air toxics control program, that it does so with full statutory and regulatory authority and in a manner consonant with both state and federal law. For while the Clean Air Act engages in "floor preemption" in order to assure that states do not engage in the historic trafficking in environmental degradation as an economic development tool, that law and the state counterpart that was adopted in order to allow the state to manage the delegated program created under the CAA, explicitly respect and preserve the ability of local communities acting through KRS Chapter 77 to establish standards that may be more protective (or in the vernacular of KRS Chapter 224, "more stringent") of public health. Additionally, the exercise of statutory authority by the LMAPCD is a protected exercise of "concurrent authority" and is not pre-empted by either state or federal law.

With respect to the relationship between state law and District regulations, KRS Chapter 77 explicitly preserves and recognizes the authority of the District to enact "stricter local regulation" that would otherwise be provided for under state law. KRS 77.170 provides in full that:

"§ 77.170. Stricter local regulation not preempted -- Local ordinances not superseded

(1) Except for subsection (3) of this section, the General Assembly does not, by the provisions of this chapter, intend to occupy the field except for requiring a county air pollution control board to exempt from the requirements of a vehicle exhaust testing program vehicles registered to military personnel on active duty whose duty station is outside of a county. Except for subsection (3) of this section, the provisions of this chapter do not prohibit the enactment or enforcement of any local ordinance stricter than the provisions of KRS 77.150 to 77.180 and stricter than the rules and regulations adopted pursuant to KRS 77.180 to 77.240, which local ordinance

prohibits, regulates, or controls air pollution.

(2) Except for subsection (3) of this section, and except for requiring a county air pollution control board to exempt from the requirements of a vehicle exhaust testing program vehicles registered to military personnel on active duty whose duty station is outside of a county, the provisions of this chapter do not supersede any such local ordinance. If it should be held that the provisions of this chapter supersede the provisions of any local ordinance, such suspension shall not bar the prosecution or punishment of any violation of such ordinance which violation was committed when such ordinance, was in full force and effect.

(3) Local ordinances prohibiting, regulating, or controlling emissions from mobile sources of air pollutants shall prohibit emissions of, regulate, or control only mobile sources of air pollutants regulated under the state program established in accordance with KRS 224.20-710 to 224.20-765."

By explicitly acknowledging that the state does not "by the provisions of this chapter, intend to occupy the field" the General Assembly has recognized and preserved the authority of local government to enact air pollution ordinances that may exceed minimum requirements contained in Chapter 77. Elsewhere in the chapter, the authority of the Air Pollution Control Board is recognized. In KRS 77.155(1) the discharge into the atmosphere of any air contaminant in quantities or for a period in excess of applicable emission standards established by the Board is prohibited. KRS 77.155(2) empowers the Board by regulation "to fix reasonable limits by weight or otherwise for particular air contaminants or other material which in the opinion of said board may cause or have a tendency to cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public[.]"

In those instances where the General Assembly has sought to constrain Board authority to enact regulations, it has done so explicitly, for example, in the case of vehicle testing programs, KRS 77.170, and direct imposition of reductions in oxides of nitrogen beyond those necessary to meet the mandates of the Clean Air Act. KRS 77.195(9).

Thus, having broadly enfranchised air pollution control boards under KRS Chapter 77 to enact needful regulations limiting emission of air

contaminants and disclaiming any intention to preempt the field of local air pollution control, the exercise of those reserved and delegated powers by the District is entirely consonant with state law. The adoption of these regulations is explicitly protected under KRS Chapter 77, and is an exercise of concurrent authority in a subject area where the legislature has expressly disclaimed any intent to preempt the field, but instead has adopted minimum standards while preserving local authority to go beyond those minimums.

Similarly, there is no serious question but that the proposed air toxics program is consistent with the Clean Air Act. In enacting a federal statute governing air pollution, Congress found that "air pollution prevention (that is, the reduction or elimination, through any measures, of the amount of pollutants produced or created at the source) and air pollution control at its source is the primary responsibility of States and local governments[.]" Clean Air Act Section 101, 42 U.S.C. 7401(a)(3). Among the purposes of the Act are "to provide technical and financial assistance to State and local governments in connection with the development and execution of their air pollution prevention and control programs[.]"

To that end, and in deference to state and local government programs, Congress explicitly deferred to state and local governments in Section 116 of the Act, 42 U.S.C. 7416, noting that (with the exception of the limited preemption of state regulation of moving sources in several sections of the federal Act), "nothing in this chapter shall preclude or deny the right of any State or political subdivision thereof to adopt or enforce (1) any standard or limitation respecting emissions of air pollutants or (2) any requirement respecting control or abatement of air pollution; except that if an emission standard or limitation is in effect under an applicable implementation plan or under section 7411 or 7412 of this title, such State or political subdivision may not adopt or enforce any emission standard or limitation which is less stringent than the standard or limitation under such plan or section."

Thus 42 U.S.C. 7416 explicitly preserves the authority recognized in state law for the District Board to adopt air toxics regulations that are more stringent than federal regulations under the Clean Air Act. As noted by the Court in Rhode Island Cogeneration Associates v. City of East Providence, 728 F.Supp 828 (D. RI 1990) "The federal statute itself and case law have made abundantly clear that the federal Clean Air Act, 42 U.S.C. § 7401 *et seq*., does not prevent states or local governments from

enacting standards more stringent than those contained in the federal laws and regulations. *See e.g.*, 42 U.S.C. 7416; Union Electric Co. v. Environmental Protection Agency, 515 F.2d 206 (8th Cir. 1975), *aff'd* 427 U.S. 246, 49 L. Ed. 2d 474, 96 S. Ct. 2518 (1976)."

Specific Comments

1. ASRC & Agency Modeling Reflects That Regulations Are Understandable & Can be Implemented At Reasonable Cost

The STAR Program Modeling Informational Meeting conducted on February 3, 2005 by the District and by Kentuckiana Engineering on behalf of the local chamber of commerce (Greater Louisville Inc.), utilizing the coal-fired boiler emissions of American Synthetic Rubber Corporation to demonstrate the process and results of Tier 3 and 4 modeling under the proposed regulations, demonstrated a number of important points. First and foremost, the modeling exercise reflected that the required Tier 3 and 4 modeling is capable of being undertaken by local engineering firms, utilizing available and EPA/peer-reviewed models such as SCREEN3 and TSCREEN, at a reasonable cost and within a reasonable timeframe.

Second, the exercise demonstrated that the emissions of most, if not all, coal-fired boiler units in the community that are currently employing BACT (best available control technology) for conventional pollutants, will fall within the Environmental Acceptability Limits of the proposed regulations. According to the information provided, the compound of concern for purposes of air toxics emissions analysis was chromium. The exercise reflected that, with proper recordkeeping and speciation of the type of chromium emissions (i.e. hexavalent v. trivalent) that the limits are achieved.

Finally, the modeling exercise reflected that the Tier 1 and 2 screening process appropriately casts a broader "net" on toxic chemical emissions in screening, with many of those chemicals originally identified being screened out for further inquiry utilizing more complex and precise analytical tools. It is entirely appropriate that the more summary analytical tools typically employed as screening tools, be more conservative in their assumptions and thus more inclusive, in order that chemicals which because of toxicity or persistence may not appear significant in volume of emissions are not excluded from more precise analytical review while only those which are

truly *de minimis* are excluded at the first, most simple and undifferentiating level of consideration. The alternative to a step-wise tiered review would be far more expensive and time-consuming for many businesses that have taken measures to control quantitatively and qualitatively their air toxics contributions, and those whose contribution is volumetrically insignificant.

2. Modeling Demonstration Suggests Advisability Of Some Clarifications To Proposed Regulations

The modeling demonstration, and the open discussion that occurred during that process, reflected that some additional clarifications are appropriate in the proposed regulations concerning both the scope of chemical compounds required to be included and the manner in which the various Tier are applied.

With respect to the latter point, the question was raised by LG&E as to whether exhaust stacks in excess of 250 feet in height would be able to utilize Tier II analysis. In response, the agency noted that the 250 foot-height limit was the upper bound number, suggesting that Tier II would not be available for those few facilities with exhaust stacks in excess of that height.

KRC questions whether, in the case of a facility whose exhaust stack is in excess of that height, it would not be possible for the facility to accept the default 250-foot height and to undertake Tier II review. Since presumptively a higher stack would result in *more* rather than less attenuation of the release, the acceptance of that stack height would appear to be a very conservative value, which if met would allow the facility to avoid more costly Tier III and IV review, and allow both the facility and District staff to concentrate on other releases more likely to be of ambient ground-level concern.

The second, and more generally-applicable comment, concerns the scope of the "Toxic Air Contaminants" which are proposed to be regulated under the STAR program. In the case of many of the inorganic metals proposed to be regulated, the list of Toxic Air Contaminants (TACs) includes the listed metals "and [metal] compounds."

In the case of chromium, the hexavalent form of chromium is properly identified as an air toxic of significant public health concern. Yet in its

trivalent form, chromium is essential to human life, and is in fact included in multivitamin supplements. As the modeling demonstration from GLI reflected, once the form of compound is speciated, the chromium emissions from the boilers were determined not to exceed the health-based emissions standards.

In order to focus the agency's and regulated community's analytical and compliance efforts towards those emissions of concern, KRC suggests that *where appropriate* the agency modify the 5.23 Section 3 list to further clarify and provide an "off-ramp" for compounds whose form is not of potential toxicity concern. KRC recommends this only for those cases where sufficient toxicological information is available for both acute and chronic exposure to suggest that it is not, either as emitted or once-emitted, as encountered by the public, of toxicity concern. The "off-ramp" would take two forms: first, the clarification in the final Section 3 list itself (as opposed to the current clarification reflected in the response to comments) that where quality-assured speciated data is available for chromium VI that it may be used in lieu of total chromium, and second, in the form of a new subsection allowing an applicant to demonstrate, through submittal of appropriate toxicological data, that the form(s) of compound emitted are not of human or ecological concern and therefore should not be required to undergo Tier II-IV review.

3. Regulation 1.02

Definition 1.7

KRC questions the use of "public access" as a qualifier for defining "ambient air." While air within a structure that is used for commercial or manufacturing is typically subject to OSHA standards, occupational exposure of workers in the workplace *outside* of the workplace to emissions from the facility vents and stacks appears to fall in a void if the ambient standards are not measured until the "property line of a stationary source" or outside a building where the "general public has access."

The use of the "property line" as the point at which compliance is determined with respect to ambient standards, has two unintended consequences that make it underprotective of public health – first, it would appear to allow acquisition of land in order to create a buffer rather than

management to reduce the creation or release of the emissions; and second, it would allow exposure to workers outside of the workplace and on facility property without accountability, even where those workers might be the maximally exposed individuals due to the exposure *in* the workplace as well as potential exposure as neighborhood residents and individual in transit from home to work.

The calculation of ambient concentrations must be such that the maximally exposed individuals outside of the source structure are protected, including workers outside the work environment on plant property.

Definition 1.30

Initially, the definition should be rewritten to remove the use of "would" twice in the sentence, in order to clarify that an applicable emissions standard "~~would~~ includes a surrogate emission standard, such as volatile organic compounds that ~~would~~ includes a toxic air contaminant . . . ."

Additionally, KRC questions the use of a volumetric threshold of "125% of the reported actual maximum hourly emission rate" for those emissions of a TAC for which there is no current standard. It is unclear, initially, whether the regulation intends for the 125% to constitute a rate of emission or an indicator of the *strength or concentration* of the emission. Further, if the concentration is intended to be the indicator, and there is no applicable emissions standard applicable for the TAC at that facility, it is unlikely that the concentration of that particular TAC is being directly measured by the facility in a manner that will allow calculation of whether the emission is 25% over the actual maximum hourly rate. Additionally, the sentence as written is ambiguous, and leave the reader unclear whether the 125% modifies the typical hourly maximum rate during normal operations or is intended to modify the maximum hourly emission rate of a TAC occurring during a startup, shutdown or malfunction. The phrase "that results from a startup, shutdown, or malfunction" needs clarification.

By definition, *any* emissions occurring at a rate or concentration of TACs in excess of currently permitted concentrations or rates are excess emissions and should be subject to reporting. Limiting reporting obligations and action to those instances where emissions are 25% above baseline amounts to an invitation to poor facility maintenance.

4. Regulation 1.07

KRC strongly supports additional accountability of sources for emissions during, and avoidance of, upsets and malfunctions. Emissions of products of combustion and of incomplete combustion from thermal treatment units can be orders of magnitude higher than during normal operating conditions, and accountability in the area of startups, shutdowns, malfunctions and releases has been lacking.

Subsection 2.8

KRC questions, however, why the notifications provided with respect to startup and shutdowns are not required to be certified by responsible officials. The goal of accountability for proper facility maintenance and control of excess emissions is best served when responsible officials are required to review and certify the accuracy of information provided to the agency.

Subsection 3.9

The District has determined not to require the development of a malfunction prevention program by a source of toxic air pollutants *until after* the source has had startups or shutdowns resulting in "repeated excess emissions[.]" In such cases, the District "may" require the owner or operator of a process or process equipment to develop a malfunction prevention program under Regulation 1.20 *if* the agency deems it "appropriate."

Limiting the responsibility for development of such a program to those sources that have *already* reported repeated excess emissions from a process or process equipment *after* the implementation of Regulation 1.07, provides facilities with potentially numerous "free bites" at poor plant maintenance, and does not encourage better management of plant equipment and processes.

As noted in Section 1.1.3, the release of air toxics is a matter that implicates public health and welfare. All facilities should have in place a malfunction prevention program under Regulation 1.20, not only those for which, after repeated excess emissions potentially jeopardizing public health, the agency deems such a program "appropriate."

5. Regulation 3.01

Section 3

The modifying language in the "Necessity and Function" section and in Section 3 which expresses an "intention" to prohibit further "significant and avoidable" deterioration of air quality in areas where the quality exceeds standards, should be redrafted in regulatory terms and without the weakening qualifiers. In order to provide a meaningful regulatory standard, the phrase "significant and avoidable" should be removed where it appears and Section 3 of the regulation should read:

"No source shall emit an air contaminant or contaminants so as to cause a deterioration of air quality in areas where the air quality is presently numerically equal to or better than the standard."

6. Regulation 5.21

a. KRC supports the proposed benchmark ambient concentrations of 1 x 10 –6 for cancer risk and 1.0 HQ for noncancer risk

KRC supports the use of a benchmark ambient concentration of 1 x 10 –6 for cancer risk and 1.0 for noncancer health effects, and is concerned that the change from a "standard" to a "goal" does not sufficiently underscore that those are the presumptive targets for the controls of TAC emissions.

As to the first point, KRC believes that the District has acted in a prudent manner in choosing conservative health-based standards. In developing a program for control and reduction of emissions of air toxics, KRC believes that it is inappropriate to establish standards that assume as appropriate the imposition of additional non-consenting risk of death or injury to human populations or subpopulations, or of degradation of environmental quality, through a less-than adequate regulatory endpoint. While some of the industry comments have questioned whether the standards for cancer and non-cancer health effects are too conservative, the state of human toxicological knowledge demands that we exhibit humility and conservatism in standard-setting.

Our society has developed an elaborate criminal justice system, which provides extensive procedural safeguards to assure that, prior to the deprivation of life, liberty or property of an individual who is accused of a crime, the state demonstrate beyond any reasonable doubt that the person is responsible for the crime and the state action against that person is thus justified. We do so in order to protect the innocent, and as a reflection of the profound respect in our society, as codified in our constitution, for personal liberty.

So too, we demand of our health professionals that before they intervene to alter a person's health status, that they provide full disclosure of risks and that the person, so informed, provides lawful and sufficient consent for *beneficial and therapeutic* intervention.

No less must be demanded of sources in the arena of air toxics emissions. Establishing a regulatory standard that sanctions additional risk of morbidity or mortality, where the exposure of the public is intentional, where from the public's standpoint the exposure is uninformed, unconsenting, and occurs to subpopulations (including children and *in* utero exposure) that are legally incapable of consent, and where the exposure to individual and multiple toxicants are *not* for therapeutic purposes but occur as a byproduct of disposal of wastes via dispersal into the public's air, is unacceptable from a public policy and environmental health perspective.

The necessity for conservative assumptions concerning exposure and risk characterization is clear, given the significant uncertainties concerning human response to multiple chemical exposure. There are over 75,000 chemicals in the marketplace. Less than 3% of those have been tested for carcinogenicity. Fewer than 5% of the 75,000 have been sufficiently tested to compile a complete *human* health hazard profile, partial information is available for 15-20%, and virtually no information is available on the remainder. Even less toxicological data is available regarding hazards to other organisms, and the human health data is in many cases weak in identifying the sub-lethal, chronic health consequences from repeated low-dose exposure from single or multiple sources. Most of the research work that has been done focuses on single chemical exposure and mush less is known of the additive and synergistic effects of multiple chemical exposures.

Additionally, conservatism is required in order to protect those among us who are the most vulnerable. Risks are not evenly distributed throughout the population, and the assumptions must consider the most sensitive subpopulations such as children, *in utero* exposure, and those with already-compromised respiratory and circulatory systems. Either the default parameters must be chosen to be protective of the most sensitive subpopulations, or an applicant must develop a formal analysis of the variability of risk across the sensitive subpopulations.

While it has been suggested that the proposed regulations are overly conservative, in reality the tremendous dearth of information relating to chronic, low-dose exposure to many of the compounds known or suspected to be capable of inducing adverse physiological response in target species, makes the supposed over-conservatism of the numbers an illusion. One has merely to review the dramatic reduction in recommended exposure values for such compounds as benzene over the past decade, and to review more generally the state of environmental toxicology, to realize that there is a significant uncertainty in the identification of "safe" levels of exposure for many thousands of the chemicals that may be released into the environment, and that the supposed conservatism may significantly under-protect the public and environment from the chronic risks of long-term, low-dose exposure.

In determining the “acceptable” level of risk, KRC believes that the formulation of “acceptability” of risks posited by the National Commission on Product Safety is instructive:

“Risks of bodily harm to users are not unreasonable when consumers understand that risk exists, can appraise their probability and severity, know how to cope with them, and voluntarily accept them to get benefits that could not be obtained in less risky ways. When there is a risk of this character, consumers have reasonable opportunity to protect themselves; and public authorities should hesitate to substitute their value judgments about the desirability of the risk for those of the consumers who choose to incur it. But preventable risk is not reasonable (a) when consumers do not know that it exists; (b) when, though aware of it, consumers are unable to estimate its frequency and severity, or (c) when consumers do not know how to cope with it, and hence are likely to incur harm unnecessarily; or (d) when risk is unnecessary in . . . that it could be reduced or eliminated at a cost in money

or in the performance of the product that consumers would willingly incur if they knew the facts and were given the choice."

Thus framed, the regulatory endpoint must remain the protection of public health and environmental quality by eliminating the use of the "commons" for disposal of airborne wastes and by more fully internalizing the cost of avoidance, reduction, management and disposal of waste byproducts of manufacturing.

b. KRC is concerned by the shift from a "standard" to a "goal" in light of the available variances in 5.21-2.3 and 2.6

The draft regulation utilized "standard" to describe the target cancer and noncancer risk levels, and the proposed regulations have changed that from a standard to a "goal." This change, in and of itself, is not determinative since the values of 1 in 1 million additional cancer risk and a hazard index of 1.0 remain the benchmarks against which the environmental acceptability levels will be determined. Rather than couch the risk values as "standards" or "goals," the values can be couched as "presumptive target risk levels" in recognition that under certain circumstances the applicant may be able to demonstrate compliance with the regulation *short* of meeting those levels.

It is the criteria for receiving approval of modifications under 2.3 and 2.6 that are of concern to KRC, for several reasons:

i. First, the regulations *should require* but do not, that the applicant seeking to depart from the presumptive target risk levels *incorporate T-BAT,* not merely that, as the current draft reads, the applicant "consider" and "review" the available technologies.

ii. Second, the applicant should be required in those instances where the presumptive target risk levels cannot be achieved, to meet risk levels as close as can be achieved to the target, and whatever that "next best" value is should be incorporated as an enforceable standard.

iii. Third, in all cases where an applicant is seeking a reduction in responsibility for emissions controls below the target risk level value, the applicant shall commit to implementation of enhanced leak detection and repair and a malfunction prevention program.

iv. Finally, and least significant of these four concerns, the requirement that the District "consider relevant . . . demographic and land use factors" has no meaning since it is unclear *what* about those factors is to be considered, and also because such information is not available for a 25-year future window. The comprehensive land use plan, as well as projected demographic information from the University can be considered, but specific reference to a 25-year window should be removed.

c. Subsection 4.10 provides essential authority for LMAPCD to consider human exposure from multiple air-related pathways

The proposed addition to Subsection 4.10, supplementing the draft authority to evaluate risk of human exposure both from multiple TACs with additive or synergistic toxicological effects, by providing that the District may consider human exposure "from routes of exposure other than direct inhalation" that are related to the airborne emissions, is an essential addition to a regulation intended to supplement technology-based standards in order to assure protection of public health. Once emitted into ambient air, human exposure can occur through numerous pathways, among them dermal exposure to particulates and both metals and organics sorbed to them and uptake from deposited dust and aerosols on food crops, as well as through direct inhalation. In the case of certain extremely toxic, persistent or bioaccumulative toxics, such as certain isomers of dioxins and furans, this additional reserved authority is essential. By proposing the development of a Risk Reduction Plan in such circumstances, both the public and affected facility(ies) have the ability to review and comment on the health science, exposure assumptions and proposed risk reduction measures.

Regulation 5.23

As discussed earlier, KRC believes that additional language limiting, as appropriate, species of metals that are of toxicological concern or whose toxicity is unknown (for example, identifying specific species of chromium such as chromium VI rather than "chromium and chromium compounds") and allowing a source to exit the tiered review by demonstrating that the facility's emissions of a compound are limited to a non-toxic form, should

be incorporated in order to allow concentration of effort on those TAC source of greater concerns in the community.

Conclusion

KRC believes that the proposed regulatory package is a sound basis on which to build a meaningful air toxics regulatory program for stationary sources of air toxics. Reduction in toxics is a multi-sector initiative, and KRC appreciates the addition of Regulation 5.30 by the District Board.

It is past time for the sources emitting air toxics, and their trade association representatives, to embrace meaningful reductions in air toxics in order to achieve healthful air quality in the Metro Louisville region. The sources have had years in which to develop meaningful voluntary measures, and yet the monitoring continued to reflect significant unabated health risks. The health of this region's economy is grounded in the health of its most vulnerable residents – its children. They deserve better than recalcitrance and entrenchment in the face of documented health risks.

KRC appreciates the courage and common sense exhibited by Mayor Abramson and the majority of the LMPACD Board in proposing the STAR regulations. The community has traveled far from the days when any draft regulatory initiative was circulated first to the business community and then as an afterthought to the public for review. The process has been fair and open, resulting in an unprecedented number of public policy and technical meetings, as well as demonstrations of the regulations as applied, and the agency has been very responsive (and perhaps, as argued above, overly so) to concerns regarding *de minimis* exemptions and other insignificant activities, and has provided flexibility where appropriate without sacrificing goals.

Cordially,

Tom FitzGerald
Director